

**SECTION 103**  
**MISCELLANEOUS EQUIPMENT**

**103-1 GENERAL**

**103-1.01 Description.** - This work consists of furnishing and installing valve vaults, valve boxes, and meter boxes. Related work is specified in the following sections:

Section 19, "Earthwork"

Section 101, "Pipe and Fittings"

Section 102, "Valves, Hydrants, and Appurtenances"

**103-1.02 Submittals.** - Within 30 days after the date of Notice to Proceed, the Contractor shall submit:

Working drawings showing dimensions and details of precast units.

2. Manufacturers' catalog data on the proposed precast units.

**103-1.03 Quality.** - Valve and meter boxes and vaults shall be manufactured in conformance to the requirements of these specifications and shall be tested for the strength requirements as specified in these and referenced specifications.

**103-1.04 Certificates of Compliance.** - The manufacturer shall establish the necessary quality control and inspection practice to assure compliance with these specifications. The manufacturer shall furnish a certificate of compliance, as specified in Section 6-1.07, "Certificates of Compliance" of the General Conditions, that all of the required tests have been made and the results thereof comply with the requirements of these specifications.

**103-1.05 Classification.** - Meter boxes are classified by nominal size according to size of meter to be contained therein. The nominal size of the meter boxes to be furnished and installed shall be as shown on the plans and shall conform to actual dimensions as shown in the standard details. Valve boxes are not classified as such as only one size, as shown on the plans, shall be used in the work for the Municipal Water System.

**103-2 MATERIALS AND FABRICATION**

**103-2.01 Concrete.** - Concrete shall be in accordance with the requirements of Section 90, "Portland Cement Concrete." Class A concrete shall be used for valve and meter boxes. Where precast units are to be used for valves and meter boxes, concrete shall have compressive strength of 4,000 psi.

**103-2.02 Reinforcement.** - Concrete reinforcement shall conform to Section 52, "Reinforcement." Grade 40 or 60 bars shall be used in valve and meter boxes, and Grade 60 bars shall be used in vaults.

**103-2.03 Metals.** - Metals shall conform to Section 75, "Miscellaneous Metal." Covers, lid seats, and ring seats shall be gray iron castings Class 30 B. Steel floor plate shall be galvanized steel conforming to the requirements of ASTM A 525, G 90 or heavier zinc coating.

**103-2.04 Fabrication.** - Meter and valve boxes shall conform to the dimensions as shown in the standard details.

Meter box covers of the same nominal size shall be interchangeable yet close fitting but easily removable. Meter boxes shall have nonsettling outside shoulders. Each meter box shall have a base plate or slab conforming to outside dimensions of the meter box. Reading lids shall be machined for close fit and ease of operation.

Vaults shall be sectionalized and shall conform to the dimensions as shown in the standard details.

Valve box ring seats and covers shall have machined seating surfaces and shall be completely "rattleproof." Extensions shall fit inside of the valve box and may be of any rigid thin wall pipe material.

**103-2.05 Markings.** - Covers for water meter boxes and vaults shall be marked with the words "WATER METER" and valve box covers shall be marked with the work "WATER."

### 103-3 INSTALLATION

**103-3.01 Earthwork.** - Excavation and backfill shall conform to the requirements for structure excavation and backfill in Section 19, "Earthwork."

**103-3.02 Setting.** - Unless otherwise shown on the plans or specified in the special provisions, a valve box or vault shall be provided for every valve as indicated on the plans. Valve boxes shall be firmly supported and shall be centered and plumb over the wrench nut of the gate valve, the box cover shall be flush with the surface of the finished pavement. Boxes and vaults shall be accurately set to grade of the surrounding surface or at such elevation as shown on the plans or as determined by the Engineer, and the box or vault shall rest on a firm foundation.

A meter box shall be provided for each meter as shown on the plans.

### 103-4 MEASUREMENT AND PAYMENT

**103-4.01 Measurement and Payment.** - Full compensation for furnishing and installing valve vaults, valve boxes, and meter boxes shall be considered as included in the contract unit price for the applicable valve or meter and no separate payment will be made.